

REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

Status of the Claims

Claims 1-6, 10, 26-29 and 34-38 are currently pending in the present application. Claims 1 and 26 have been amended without prejudice to or disclaimer of the subject matter contained therein. No new matter has been added by way of the amendments.

Based upon the above considerations, entry of the present Amendment is respectfully requested.

Substance of the Interview

The Examiner is thanked for conducting the interview on July 7, 2009. During the interview, the Examiner indicated that the claims recite both manufacturing steps of "formed by" and broadly recite features of the product. The Examiner indicated that he can only give weight to features of the end product.

Subsequently, Applicants have amended the claims in order to clarify the features of the end product that are particular to the method of forming the product.

Claim Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1, 10 and 34 under 35 U.S.C. § 102(a) as allegedly being anticipated by Wong et al., "Amorphous silicon thin-film transistors and arrays fabricated by jet printing" (hereinafter referred to as Wong). Applicants respectfully traverse.

The claimed invention intends a semiconductor layer of a shape and arrangement such that it can be formed by dropping a droplet. Subsequently, the shape of the semiconductor layer results from dropping a droplet. According to the present specification, having a semiconductor layer and/or conductor layer that can have a shape formed by dropping a droplet, manufacturing of the semiconductor device can be simplified and less waste material is produced (specification at page 5).

Although Wong discloses jet printing to form a printed mask, the applied material is required to form specific patterns. Wong seeks to improve print quality in order to obtain desired patterns. Thus, unlike the present invention, end products in Wong conform to required patterns. In particular, Wong discloses specific rectangular patterns, as shown for example in Fig. 4.

The semiconductor layer of the claimed invention is of a shape such that it can be formed by dropping a droplet.

Claim 1 has been amended to clarify the meaning of the phrase a shape formed by dropping a droplet. Where Wong requires printing to form specific patterns by ink jet printing, the present invention relates to a semiconductor layer that can take on whatever shape results from dropping a droplet.

In order to clarify that the shape of the semiconductor layer results from dropping of a droplet, claim 1 has been amended to recite:

“...the formed semiconductor layer having a shape dimensions along a periphery defined as a result of being formed by dropping a single droplet of the mask material.”

For at least these reasons, Applicants submit that the rejection fails to establish *prima facie* obviousness and must be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 2-4 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wong in view of Kasahara et al., U.S. 6,822,701 (hereinafter referred to as Kasahara). Applicants submit that claims 2-4 being dependent claims are patentable at least for the reasons above for claim 1.

The Examiner rejected claims 26-29 and 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoo et al., U.S. 2002/0180898 (hereinafter referred to as Yoo) in view of Wong.

Applicants respectfully traverse.

The claimed invention intends a semiconductor layer and a conductor layer of a shape and arrangement such that they can be formed by dropping a droplet. Subsequently, the shape of the semiconductor layer and conductor layer result from dropping a droplet. According to the present specification, having a semiconductor layer and/or conductor layer that can have a shape formed by dropping a droplet, manufacturing of the semiconductor device can be simplified and less waste material is produced.

Although Wong discloses jet printing to form a printed mask, the applied material is required to form specific patterns. Wong seeks to improve print quality in order to obtain desired patterns. Thus, unlike the present invention, end products in Wong conform to required patterns. In particular, Wong discloses specific rectangular patterns, as shown for example in Fig. 4.

The semiconductor layer of the claimed invention is of a shape such that it can be formed by dropping a droplet. In the case of claim 26, both the semiconductor layer and a conductor layer have a shape such that both can be formed by dropping a droplet.

Claim 26 has been amended to clarify the meaning of the phrase a shape formed by dropping a droplet. Where Wong requires printing to form specific patterns by ink jet printing, the present invention relates to a semiconductor layer that can take on whatever shape results from dropping a droplet. In the case of claim 26, both a semiconductor layer and a conductor layer result in the same shape.

In order to clarify that the shape of both the semiconductor layer and conductor layer result from dropping of a droplet, claim 26 has been amended to recite:

“...the conductor layer is formed in contact with the semiconductor layer and one of source and drain electrodes of the thin film transistor section, and has a portion formed by dropping a droplet, the conductor layer and the semiconductor layer having substantially the same shape in the portion dimensions along the respective periphery as a result of being formed by dropping a droplet.”

Furthermore, Yoo discloses semiconductor layers 45 and 47, and source electrode 35 and drain electrode 37 having a two layer structure made of a first metal layer 36a and a second metal layer 36b. The side views of the TFT shown in Figs. 7 and 8d show the source and drain

electrodes as extending beyond the semiconductor layers.

Applicants submit that Yoo's first metal layer 36a, as well as the second metal layer 36b, constitutes the source electrode 35 and the drain electrode 37 (see Yoo at para. 0057). Claim 26 recites a "conductor layer" formed in contact with the source and drain electrodes, that the conductor layer and the semiconductor layer have substantially the same shape. Applicants submit that neither Yoo nor Wong disclose the claimed "conductor layer" in contact with the source and drain electrode and in contact with the semiconductor layer, and having the same shape as the semiconductor layer.

For at least this additional reason, Applicants submit that Yoo and Wong, either alone or in combination, fail to teach all claimed features of claim 26.

Applicants request that the rejection be reconsidered and withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs, Reg. No. 48,222, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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